Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Review of Quiet Zones Application Procedures	)	WT Docket No. 01-319
	)	
	)	

REPORT AND ORDER

Adopted: February 4, 2004 Released: February 12, 2004

By the Commission:

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I. INTRODUCTION

1. By this action, we adopt changes to our rules governing areas known as "Quiet Zones."[1] The amendments that we adopt today serve the dual purposes of streamlining requirements for applications affecting Quiet Zones, while protecting these sensitive areas from harmful interference. We believe that the record in this proceeding demonstrates that our rules have been largely successful in protecting Quiet Zones while facilitating the deployment of wireless services. Nevertheless, we believe there are certain modifications that will expedite the application process, reduce unnecessary or redundant requirements from Commission regulations, and promote the efficient use of spectrum within these protected areas. Accordingly, in this *Report and Order*, we:

- Amend our rules to provide for immediate processing of applications that may implicate Quiet Zones, in the event that the applicant indicates that it has obtained consent, if required by section 1.924, of the Quiet Zone entity.

- Amend our rules to clarify that applicants may provide notification to and begin coordination with Quiet Zone entities, where required, in advance of filing an application with the Commission.

- Amend section 101.31(b)(1)(v) to permit Part 101 applicants to initiate conditional operation, provided they have obtained prior consent of the Quiet Zone entity to the extent required, and are otherwise eligible to initiate conditional operations over the proposed facility; similarly, we clarify that, for services in which individual station licenses are not issued, licensees may initiate operations immediately upon receipt of the Quiet Zone entity's consent.

- Clarify that either the applicant or the applicant's frequency coordinator may notify and initiate any required coordination proceedings with the Quiet Zone entity.

II. BACKGROUND.

2. Section 1.924 of our rules sets forth procedures regarding coordination of Wireless Telecommunications Services applications and operations within areas known as "Quiet Zones."[2] Such zones are areas where "it is necessary to restrict radiation so as to minimize possible impact on the operations of radio astronomy or other facilities that are highly sensitive to interference."[3] The facilities covered by section 1.924 are: (1) the National Radio Astronomy Observatory (NRAO) site in Green Bank, Pocahontas County, West Virginia, and the Naval Radio Research Observatory (NRRO) site in Sugar Grove, Pendleton County, West Virginia;[4] (2) the Table Mountain Radio Receiving Zone of the

[1] *See* 47 C.F.R. § 1.924. For purposes of simplicity, all areas implicated by section 1.924 will be referred to in this order as "Quiet Zones." We note that the only area with the formal designation of "Quiet Zone" is the National Radio Quiet Zone, which encompasses the National Radio Astronomy Observatory and the Naval Radio Research Observatory. *See* Amendment of Part 2 of the Commission's Rules and Regulations to Give Interference Protection to Frequencies Utilized for Radio Astronomy; Amendment of Parts 3, 4, 5, 6, 7, 9, 10, 11, 16, 20, and 21 of the Commission's Rules and Regulations to Give Interference Protection to Frequencies Utilized for Radio Astronomy, *Report and Order*, 17 Rad. Reg. 1738 (1958). *See also* Manual of Regulations and Procedures for Federal Radio Frequency Management, U.S. Department of Commerce, National Telecommunications and Information Administration, May 2003 Edition, Section 8.3.9. In this regard, we clarify references in certain service specific rules to avoid confusion regarding the term "quiet zone." *See* Appendix A.

[2] 47 C.F.R. § 1.924.

[3] *Id.*

[4] 47 C.F.R. § 1.924(a).

Research Laboratories of the Department of Commerce (Table Mountain) in Boulder County, Colorado;[5] (3) FCC field offices used for monitoring activities;[6] and (4) the Arecibo Observatory (Arecibo) in Puerto Rico.[7] The record confirms that such facilities are sensitive to interference. For example, commenters have explained that the emissions that radio astronomy facilities are designed to receive are extremely weak; a typical radio telescope receives approximately one-trillionth of a watt from even the strongest cosmic source and can receive sources one million times weaker still.[8] Because radio astronomy receivers are designed to pick up such weak signals, these facilities are extremely vulnerable to interference from spurious and out-of-band emissions.

3. In order to protect Quiet Zones from harmful interference, section 1.924 sets forth a variety of required or recommended procedures for notifications to and/or coordination of proposed frequency use with an affected site. The facilities affected can be separated into two categories: areas in which applicants are required to provide notification of any proposed operations prior to authorization, and areas for which the Commission recommends advanced consultation.[9] For facilities requiring notification, specifically NRAO, NRRO and Arecibo, section 1.924 provides that notification must occur concurrently with the filing of the application, and that the affected facility must be given an opportunity to comment on the application.[10] For example, section 1.924(a) provides that an entity filing an application to operate a new or modified station in the NRAO or NRRO Quiet Zone areas must simultaneously provide notification to the applicable entity along with technical details of its proposed operation. The filing of the application triggers a 20-day comment period during which the applicable Quiet Zone is given an opportunity to file comments or objections in response to the notifications.[11] For other facilities, such as Table Mountain and FCC Field Monitoring Facilities, the Commission's rules do not require that notification and opportunity to object be afforded to the affected facility prior to grant of the application.[12] Rather than require notification and a 20-day comment period for the latter areas, the Commission urges that advance consultation be made with the applicable entity in order to avoid interference.

4. In January 2001, pursuant to the statutory mandate under section 11 of the Communications Act, as amended, requiring the periodic review of Commission rules, Commission staff completed an evaluation of regulations affecting telecommunications service providers, and issued a report regarding recommendations made as a result of that review.[13] In its comments to the 2000 Biennial Review, Alloy

[5] 47 C.F.R. § 1.924(b).

[6] 47 C.F.R. §§ 0.121, 1.924(c). These field offices are located in Allegan, Michigan; Anchorage, Alaska; Belfast, Maine; Canandaigua, New York; Douglas, Arizona; Ferndale, Washington; Grand Island, Nebraska; Kingsville, Texas; Laurel, Maryland; Livermore, California; Powder Springs, Georgia; Santa Isabel, Puerto Rico; Vero Beach, Florida; and Waipahu, Hawaii.

[7] 47 C.F.R. § 1.924(d). In the *NPRM*, the Commission noted that it was excluding section 1.924(e), 47 C.F.R. § 1.924(e), concerning Government Satellite Earth Stations located in the Denver, Colorado and Washington, D.C. areas, from consideration in this proceeding. This *Report and Order* likewise does not make any changes to section 1.924(f), 47 C.F.R. § 1.924(f), which limits operations in the 420-450 MHz band near certain military bases, or section 1.924(g), which seeks to limit interference to Geostationary Operational Environmental Satellite earth stations located at Wallops Island, Virginia; Fairbanks, Alaska; and Greenbelt, Maryland.

[8] *See* National Academy of Sciences (NAS) Comments at 2.

[9] 47 C.F.R. §§ 1.924(b)(2), (c)(4).

[10] *See* 47 C.F.R. §§ 1.924(a)(2), (d)(2).

[11] *See* 47 C.F.R. § 1.924(a).

[12] *See* 47 C.F.R. §§ 1.924 (b), (c).

[13] *2000 Biennial Regulatory Review Updated Staff Report* (rel. Jan. 17, 2001) (*2000 Biennial Review Staff Report*).

LLC, now Cingular Wireless LLP, argued that the Commission's rules add an excessive interval to the process of obtaining approval for wireless facilities located within Quiet Zone areas.[14] As an example, Alloy/Cingular stated that, although the Arecibo Observatory is often willing to provide written approval for wireless modifications, the Commission's rules delay final approval.[15] Alloy/Cingular asserted that the Commission's rules are burdensome and can be improved to address speed of service issues.[16] In response to these comments, the staff recommended that we reexamine the application procedures for Quiet Zone areas and determine whether we could make these procedures more efficient.[17] In the *2000 Biennial Review Report*, the Commission accepted the staff's recommendation to initiate a rulemaking to review the rules governing applications potentially affecting Quiet Zones.[18] Accordingly, in November 2001, the Commission issued a *Notice of Proposed Rulemaking* (*NPRM*) seeking to identify and address ways of streamlining the processing of such applications, while simultaneously ensuring the continued protection of these sensitive areas.[19]

III. DISCUSSION

A. Streamlining Quiet Zone application processing.

5. *Background.* In the *NPRM*, the Commission inquired whether, in situations in which Quiet Zone issues are implicated, it is appropriate to expedite application processing if the application provides written consent, where required, from the applicable Quiet Zone entity.[20] As noted, section 1.924(a) and 1.924(d) set out a 20-day period[21] during which the NRAO, NRRO or Arecibo may lodge a comment or objection in response to a notification regarding proposed operation.[22] The Commission suggested that in such situations, if a wireless operator obtains written consent as necessary from the applicable entity

[14] Alloy LLC 2000 Biennial Review Comments, FCC 00-346, at 8 (filed Oct. 10, 2000).

[15] *Id.*

[16] *Id.*

[17] *2000 Biennial Regulatory Review Staff Report* at Appendix IV: Rule Part Analysis at 9.

[18] *See Biennial Regulatory Review*, CC Docket No. 00-175, *Report*, 16 FCC Rcd 1207, 1231-32 (2001) (*2000 Biennial Review Report*).

[19] Review of Quiet Zones Application Procedures, *Notice of Proposed Rulemaking*, 16 FCC Rcd 20690 (2001) (*NPRM*). Subsequently, the Cellular Telecommunications & Internet Association (CTIA) filed a petition for rulemaking seeking amendment of rules relating to Quiet Zones as part of the Year 2002 Biennial Regulatory Review. *See* Cellular Telecommunications & Internet Association's Petition for Rulemaking Concerning the Biennial Review of Regulations Affecting CMRS Carriers, filed July 25, 2002 (CTIA 2002 Biennial Review Comments). The Rural Cellular Association (RCA) similarly filed comments in the 2002 Biennial Regulatory Review proceeding suggesting that certain rules regarding Quiet Zones be modified. RCA 2002 Biennial Review Comments at 3. The staff concluded that the rule changes proposed by CTIA and RCA are within the scope of review contemplated in the instant proceeding and recommended that the comments of CTIA and RCA be incorporated into this proceeding as well. *See* Federal Communications Commission 2002 Biennial Regulatory Review - Staff Report of the Wireless Telecommunications Bureau, 18 FCC Rcd 4243 (2003).

[20] *NPRM*, 16 FCC Rcd at 20693, para. 9.

[21] In its comments, NSF seeks clarification as to whether the 20-day period refers to calendar or business days. Section 1.4 of the Commission's rules provides that deadlines for filing periods of more than seven days are calculated according to calendar days. 47 C.F.R. § 1.4.

[22] 47 C.F.R. § 1.924(a), (d).

following consultation, the Commission could process the application without awaiting the end of the 20-day period.[23]

6. *Discussion.* We conclude that, in situations where notification is required, it is appropriate to amend our rules to provide for the immediate processing of applications where the applicant has obtained the prior written consent of the relevant Quiet Zone entity. We find that waiting for the expiration of the 20-day waiting period in cases in which the applicant has consulted with, and obtained approval from, the Quiet Zone entity, unduly delays the processing of applications. The underlying basis of the waiting period was to provide affected Quiet Zone entities an interval within which to lodge comments or objections regarding interference concerns with the Commission. Delaying the processing of applications until the expiration of the waiting period serves no purpose in situations in which the Quiet Zone entity has indicated that it has no objections to the technical details of the proposed operation. Accordingly, we adopt this proposal. Most of the parties commenting on this issue agree that the waiting period need not be exhausted if the affected Quiet Zone entity has provided written consent.[24] NRAO, however, argues that a reduction of the 20-day waiting period would place an undue administrative burden on the Quiet Zone entity and would jeopardize the thoroughness of an application evaluation.[25] NRAO states that an applicant should not expect a completed evaluation in advance of the 20-day period.[26] We note, however, that our decision to expedite application processing relates only to applicants that have obtained written consent from the applicable Quiet Zone entity. Where prior written consent is not obtained, Quiet Zone entities retain the full 20-day period to file comments or objections regarding a proposed operation. Further, in order to avoid any confusion as to the scope of a Quiet Zone entity's consent, the written consent from the Quiet Zone entity must include the same technical parameters specified in the application.[27]

B. Coordination in advance of application filing.

7. *Background.* In the *NPRM*, the Commission requested comment on whether to allow parties to provide notification to and begin coordination with affected entities, where required, in advance of filing an application with the Commission.[28] As noted, sections 1.924(a)(2) and 1.924(d)(2) require an applicant to notify NRAO, NRRO or the Arecibo Observatory at the same time it makes a filing with the Commission.[29] In the *NPRM*, the Commission tentatively concluded that advance coordination with these Quiet Zone entities would help to expedite application processing and the initiation of operations, while also ensuring that Quiet Zones are protected.[30]

8. *Discussion.* We conclude that applicants and Quiet Zone entities alike will benefit from advance notification and coordination. We agree with commenters who state that the simultaneous notification currently specified in the Commission's rules may have discouraged applicants from planning ahead and

[23] *NPRM*, 16 FCC Rcd at 20693, para. 9.

[24] *See* Cingular Comments at 5-6; Cornell Comments at 5; NAS Comments at 4; NSF Comments at 3; SBS Comments at 2; Verizon Wireless Comments at 2-3; CTIA 2002 Biennial Review Comments at 7; RCA 2002 Biennial Review Comments at 3.

[25] NRAO Comments at 1.

[26] *Id.*

[27] *See* NAS Comments at 4; Cornell Comments at 5-6.

[28] *NPRM*, 16 FCC Rcd at 20693, para. 10.

[29] 47 C.F.R. §§ 1.924(a)(2), 1.924(d)(2).

[30] *NPRM*, 16 FCC Rcd at 20693, para. 10.

obtaining the prior consent of the applicable Quiet Zone entity.[31] We find that prior notification and coordination between applicants and Quiet Zone entities should be encouraged because such coordination would allow parties to directly address any interference concerns prior to filing, thereby avoiding the possibility that a Quiet Zone entity will object after an application has been filed. This in turn would facilitate the expeditious processing of applications by the Commission. The commenters strongly support the idea of prior coordination, noting that advance notification and coordination has already been occurring on an informal basis, and emphasizing that, based on previous experience, the earlier that coordination occurs between carriers and Quiet Zone entities, the better the result for all parties. Given these considerations, we modify sections 1.924(a)(2) and 1.924(d)(2) to provide that notice may be provided to the affected Quiet Zone entity prior to, or simultaneously with, a Commission filing.

9. In addition to seeking comment on whether advance notification and coordination should be permitted, the Commission sought comment on the appropriate length of time that should be prescribed for such notification and coordination.[32] There was, however, little comment as to this issue. One commenter, the National Science Foundation (NSF), advocates early coordination with Quiet Zone entities, particularly within 30 to 60 days prior to a Commission filing, but feels that coordination between parties earlier than 60 days prior to a filing would not be productive.[33] Another commenter, NRAO, states that in light of the success of the "informal preliminary evaluations" it has provided to applicants in the past, the Commission should only encourage advance notification rather than mandating a specific time frame. NRAO believes that such coordination should remain informal.[34]

10. We agree with NRAO that the timing of advance coordination should be left to the parties. To the extent that prior coordination has been occurring informally between applicants and Quiet Zone entities, it appears that applicants have successfully coordinated with Quiet Zone entities and subsequently filed applications without formal direction from or involvement of the Commission. Given this success, we conclude that it is unnecessary to prescribe a specific timeline for advance notification and coordination. We will, however, continue to require that applicants serve notice to the relevant Quiet Zone entity that the application has actually been filed and that such notification include technical details of the proposed operation as set out in sections 1.924(a)(1) and 1.924(d). We conclude that continuing to require applicants to provide notice when an application is filed is reasonable to ensure consistency between technical specifications agreed upon pursuant to the advance coordination and what is actually filed in the application. Moreover, for situations in which an applicant has given advance notice but does not reach agreement with the Quiet Zone entity regarding proposed operations, such notice signals the Quiet Zone entity that the 20-day waiting/comment period has begun.

C. Conditional operation of stations.

11. *Background.* In its comments to the Commission's *2000 Biennial Review*, Alloy/Cingular argued that the Commission's rules imposed an excessive interval to the process of obtaining approval for wireless facilities within the vicinity of a Quiet Zone.[35] Alloy/Cingular asserted that the Commission's rules with respect to microwave operations in Quiet Zones are burdensome and can be improved to address speed of service issues.[36] Specifically, section 101.31(b) permits applicants for certain point-to-

[31] *See* Cingular Comments at 5; SBS Comments at 2.

[32] *NPRM*, 16 FCC Rcd at 20693, para. 10.

[33] NSF Comments at 4.

[34] NRAO Comments at 2.

[35] Alloy/Cingular 2000 Biennial Review Comments at 8.

[36] *Id.*

point microwave stations to operate on a conditional basis during the pendency of an associated application under certain conditions.[37] However, subsection (v) of that rule forbids conditional operation of facilities located in areas identified in section 1.924 in general.[38] Acknowledging this issue in the *NPRM*, the Commission sought comment on whether to allow Part 101 applicants to initiate conditional operation under section 101.31(b), notwithstanding the limitation contained in subsection (v), if they submit written consent from the applicable Quiet Zone entity, and otherwise are eligible to initiate conditional operations over the proposed facility.[39]

12. *Discussion.* We conclude that it is in the public interest to allow Part 101 applicants to operate on a conditional basis in Quiet Zones pending application processing if they obtain prior consent from the applicable Quiet Zone entity. Section 101.31(b)(1)(v)'s ban on conditional operation in Quiet Zones was established to ensure that such areas are adequately protected from interference. However, we conclude that the underlying goal of the ban against conditional operation in Quiet Zones would be served where, prior to submitting an application, an applicant has resolved interference and other coordination issues with an affected entity and has obtained consent. The Commission has previously recognized that permitting conditional operation pending the approval of an application provides greater flexibility to Part 101 entities and enables them to operate more efficiently.[40] In instances where applicants have obtained consent from the relevant entities and have satisfied other applicable conditions, we agree with commenters that precluding such Part 101 entities from operating on a conditional basis would unduly delay the construction and deployment of microwave networks. Indeed, all commenters responding to this issue indicate that we should permit conditional operation in such situations.[41] Accordingly, we will modify section 101.31(b)(1)(v) to permit conditional operation in Quiet Zones if the applicant has obtained written consent from the applicable entity and otherwise satisfies the criteria for conditional authorization found in section 101.31(b).

13. Verizon Wireless suggests that, although the vast majority of applications that are delayed as a result of Quiet Zones procedures are microwave authorizations, any decision on our part to permit conditional operation in a Quiet Zone area should also apply to other wireless services such as the Personal Communications Service (PCS) or cellular service.[42] We conclude that, for wireless services in which applicants are permitted to operate on a conditional basis prior to authorization, there is little basis to distinguish applicants of such services from Part 101 applicants so long as an applicant has coordinated with the applicable Quiet Zone entity and all other requirements for conditional operation have been met. As noted, once an applicant has coordinated with a Quiet Zone entity and has obtained consent, little benefit is gained from precluding conditional operation. However, we will not extend this to wireless services, such as cellular, which do not permit operation prior to authorization by the Commission.

[37] 47 C.F.R. § 101.31(b)(v).

[38] *See* 47 C.F.R. § 101.31(b)(v).

[39] *NPRM*, 16 FCC Rcd at 20693, para. 8.

[40] Reorganization and Revision of Parts 1, 2, 21, and 94 of the Rules to Establish a New Part 101 Governing Terrestrial Microwave Fixed Radio Services, *Report and Order*, 11 FCC Rcd 13449, 13461-13462, paras. 26-27.

[41] Cingular Comments at 3-4, Cornell Comments at 5; NAS Comments at 4; NSF Comments at 3; NRAO Comments at 3; Cornell Reply Comments at 2.

[42] Verizon Wireless Reply Comments at 2-3.

D. Rules cross-referencing section 1.924.

14. *Background.* There are a number of Commission rules that cross-reference section 1.924 or specify procedures that are contingent upon section 1.924.[43] In the *NPRM,* the Commission referenced sections 90.655,[44] 95.45(b),[45] 101.1009,[46] and 101.1329[47] as examples of rules that point out that certain sites may require individual station licenses or are the subject to other restrictions if they are located in Quiet Zones.[48] The Commission requested comments on any possible modifications of these or other rules that implement the Commission's goals regarding protection of Quiet Zones from unacceptable interference.[49] The commenters who addressed this issue advocate maintaining all references to section 1.924 of our rules, as well as adding additional references to section 1.924 in service-specific rules, particularly for services that are licensed according to geographic area markets.[50] Commenters argue that such cross-referencing is necessary because applicants are likely to read only those rules that refer to their own service, and may be unaware of the need to comply with Quiet Zone rules.[51]

15. *Discussion.* We find that augmenting our service-specific rules to ensure that applicants and licensees are aware of their section 1.924 obligations is not warranted. Applicants and licensees are required to be aware of and to comply with all applicable Commission rules.[52] We note that in the *ULS Report and Order,* the Commission consolidated all wireless procedural rules, including service-specific Quiet Zone rules, into Part 1 in order to provide consistent standards for all wireless services, eliminate unnecessary or redundant rules, and retain service-specific rules only where such rules are necessary due to technical, operational or policy considerations of the particular wireless service.[53] In consolidating all of the procedural rules in Part 1, the Commission established a single point of reference regarding our wireless licensing procedures.[54] We find the argument that applicants are unlikely to read applicable Part 1 rules unpersuasive to undo the harmony and consistency achieved by the *ULS Report and Order.* Moreover, we are not aware that there is a current problem with carriers not complying with section 1.924 requirements specifically because they are not aware of the obligation to do so. Therefore, we will not place additional references to section 1.924 in our service-specific rules.[55]

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[43] *NPRM,* 16 FCC Rcd at 20693, para. 11.

[44] 47 C.F.R. § 90.655.

[45] 47 C.F.R. § 95.45(b).

[46] 47 C.F.R. § 101.1009.

[47] 47 C.F.R. § 101.1329.

[48] *NPRM,* 16 FCC Rcd at 20693, para. 11.

[49] *Id.*

[50] Cornell Comments at 5-6; NAS Comments at 4-5; NRAO Comments at 2; NSF Comments at 2-3.

[51] Cornell Comments at 5-6; NAS Comments at 4; NSF Comments at 3.

[52] *See e.g.* Sitka Broadcasting Company, Inc., *Memorandum Opinion and Order,* 70 FCC 2d 2375, 2378 (1979), citing Lowndes County Broadcasting Company, *Memorandum Opinion and Order,* 23 FCC 2d 91 (1970) and Emporium Broadcasting Company, *Memorandum Opinion and Order,* 23 FCC 2d 868 (1970).

[53] *See* Amendment of Parts 0, 1, 12, 22, 24, 26, 27, 80, 87, 90, 95, 97, and 101 of the Commission's Rules To Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services, *Report and Order,* 13 FCC Rcd 21027 (1998) (*ULS Report and Order*).

[54] *Id.* at 21054-21055, para. 56.

[55] We note that we are not removing any current references to section 1.924 in service-specific rules.

16. Although we will not amend our service-specific rules to include additional cross-reference to section 1.924, we nonetheless will take other measures to publicize section 1.924 requirements. For example, we will evaluate whether it is possible to modify the Commission's application forms to make reference to section 1.924 obligations more explicit. We will also take outreach measures such as placing information on the Commission's website or issuing public notices to remind entities of their obligations.

E. Matters raised by commenters in response to the *NPRM*.

17. In the *NPRM*, the Commission requested comment on ways to improve the current procedures prescribed by section 1.924 that would streamline the applicable processes while continuing to ensure that areas are fully and adequately protected. In response, we received a number of proposals to modify the processes set out in section 1.924.

1. Proposals to institute 30-day automatic consent period.

18. *Background.* Two of the commenters in this proceeding advocate an advance 30-day notification period during which the failure of the Quiet Zone entity to comment or object will constitute approval of the terms of the proposed operation. First, Cingular suggests that the consent process regarding conditional authority for microwave services in Quiet Zones be combined with current frequency coordination procedures.[56] Part 101 applicants are required to provide notification to other Part 101 licensees and applicants of proposed frequency use prior to filing an application with the Commission.[57] If no comment or objection is received within 30 days, the applicant is deemed to have made reasonable efforts to coordinate and may file its application without a response.[58] Cingular proposes that this rule be extended to Quiet Zone situations so that the Quiet Zone entity would be required to respond in writing to an applicant's proposed operation within the same 30-day period. In Cingular's proposal, an applicant can satisfy the consent requirement by providing a statement that the Quiet Zone entity has been notified and no responses were received within 30 days of notification.[59] Cingular asserts that this change will reduce the need for Quiet Zone entities to formally respond in writing to every proposal while still providing operational flexibility to microwave applicants.[60]

19. Spanish Broadcasting System (SBS) also proposes a 30-day notification period, but seeks to apply the 30-day notification period across services.[61] In SBS's proposal, for situations in which notification is required prior to authorization, if a Quiet Zone entity does not respond to pre-application coordination efforts made by an applicant within 30 days of notification, then concurrence will be implied.[62] No comment period would occur after filing. SBS proposes that the Commission require that applicants file an application within 60 days of the end of the 30-day period to prevent the application from getting stale.[63]

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[56] Cingular Comments at 6.

[57] *See* 47 C.F.R. § 101.103(d).

[58] 47 C.F.R. § 101.103(d)(2)(iv).

[59] Cingular Comments at 6-7.

[60] Cingular Comments at 7.

[61] While Cingular's proposal is specific to Part 101 applicants seeking conditional authority, SBS's proposal appears to apply to all situations implicating Quiet Zones.

[62] SBS Comments at 2.

[63] *Id.*

20. *Discussion.* We decline to adopt the proposals advanced by Cingular and SBS to establish a process in which consent by a Quiet Zone entity is assumed if no objections are raised by the end of a 30-day period. As emphasized in the *NPRM,* we consider protection of the Quiet Zone areas from radiofrequency interference to be critically important and that in instituting this proceeding, we do not intend to reduce or eliminate applicant requirements to coordinate with Quiet Zones.[64] Our aim in this proceeding is to identify ways to streamline our application processes but only if the underlying objectives of the Quiet Zone rules are not compromised.[65] We believe that the protections set out in section 1.924 will be undercut if carriers may assume that failure by a Quiet Zone entity to respond to a notification within 30 days may automatically be construed as consent.[66] We continue to believe that actual coordination between applicants and Quiet Zone entities remains the most effective means for parties to ensure that Quiet Zone areas are protected from interference in the least burdensome manner to applicants.

21. While Cingular and SBS argue that allowing a 30-day automatic consent period is more desirable than the current coordination process,[67] we do not believe that a departure from our current coordination processes is warranted. The Commission cannot know what is occurring with respect to interactions between applicants and Quiet Zone entities, for example, whether notification was adequate or whether applicants are taking appropriate measures to avoid interference to Quiet Zone areas. Without explicit prior approval by the Quiet Zone entity or a time period during which a Quiet Zone entity may lodge objections to operational parameters set out in an application, we cannot assume consent. Further, the record makes apparent that applicants and Quiet Zone entities have been largely successful in resolving notification and coordination issues under our current rules. Although certain commenters assert that our rules regarding coordination are burdensome,[68] these commenters have not provided any specifics as to any difficulties or delays caused by our rules, nor are we aware that any applications have been unduly delayed as a result of our Quiet Zone rules. To the extent that there have been delays, we are confident that the rule changes that we are adopting in this proceeding will make the Quiet Zone application processes more efficient and will facilitate the rapid deployment of service.

2. Proposal requesting greater Commission oversight of guidelines and processes used by Quiet Zone entities.

22. *Background.* RCC Consultants (RCC) requests that the Commission set out specific Quiet Zone interference standards that must be followed by Quiet Zone entities, specifically NRAO and NRRO.[69] RCC states that, although pre-coordination with Quiet Zone facilities has been helpful in the past, pre-

[64] *NPRM*, 16 FCC Rcd at 20692, para. 5.

[65] *Id.*

[66] For example, an applicant could send a pre-application notification to a Quiet Zone entity, stating that it will begin conditional operations. Once the 30-day period has run, the applicant can file an application with the Commission and begin conditional operations without ever hearing from the Quiet Zone entity or without having to notify the Quiet Zone entity that an application has actually been filed.

[67] SBS argues that the 30-day period is necessary to provide applicants with a finite period of time in which to obtain some certainty of response from the Quiet Zone entity and to allow for a more rational and expedited application processing system, while Cingular argues that the 30-day period permits flexibility in coordination. Cingular Comments at 7.

[68] Alloy 2000 Biennial Review Comments at 8 (the Commission's rules are burdensome and delay final approval); SBS Comments at 1 (Commission's rules regarding Quiet Zones are time-consuming and burdensome).

[69] RCC Comments at 1.

coordination is a trial and error process that is unnecessary and burdensome for applicants.[70] Instead, RCC argues that the interference protection criteria used by these facilities should be set out in the Commission's rules, and a clear process for appeals regarding interference objections raised by NRAO and NRRO should be established to determine the reasonableness of existing criteria and any future changes.[71] RCC asserts that these facilities can and have changed their interference parameters at will with no opportunity for public comment or appeal, and that the present method of determining acceptable effective radiated power (ERP) with respect to the NRAO and NRRO facilities is subject to error.[72] RCC states that the interference criteria as presently established by NRAO generally makes use of the 700-800 MHz public safety frequency bands economically infeasible in several counties of Virginia, thereby denying public safety agencies in these areas the benefits of interoperability and mutual aid communications with other public safety agencies.[73]

23. *Discussion.* In the *Arecibo Report and Order*, the Commission established coordination procedures that would apply to operations potentially affecting the Arecibo Radio Astronomy Observatory. In establishing these procedures, the Commission explained its rationale for not adopting specific interference criteria. The Commission concluded that the large number of services --- each operating at differing power levels and frequencies --- as well as other variables such as terrain and propagation characteristics made it prohibitively difficult and time-consuming to establish interference standards that would apply to all applicants.[74] Given these considerations, the Commission did not establish interference limits, and instead directed Arecibo to establish technical guidelines to be used during coordination.[75] Although that order was specific to the Arecibo facility, the same rationale holds true for NRAO and NRRO as well.

24. We conclude that RCC has not demonstrated that circumstances now exist that warrant a change to our policies regarding Quiet Zones interference standards. The factors that caused the Commission to find in the *Arecibo Report and Order* that establishing specific interference criteria would be inordinately difficult and time-consuming remain valid. Although we do not rule out the possibility that in the future we may reconsider our position on this issue, we have not been presented with facts or circumstances sufficient to persuade us that it is now necessary to develop and codify interference standards for NRAO and NRRO.

25. Similarly, we do not find that it is desirable for the Commission to mandate a method of performing interference studies. We believe that specifying the precise method of conducting interference studies could actually run counter to the interests of applicants by taking flexibility out of the coordination process. For example, the Commission could prescribe a method that, depending on the particular circumstance, results in a more restrictive outcome to the applicant than that which may have occurred had the applicant and the Quiet Zone entity had an opportunity to work out a technical solution. Instead, we continue to believe that applicants and Quiet Zone entities should be given the flexibility to work out a solution as to how best to safeguard the affected entity's operations while minimizing burdens on the applicant. Although RCC argues that the parameters needed to perform the interference analyses

[70] *Id.*

[71] *Id.*

[72] *Id.*

[73] *Id.*

[74] *Arecibo Report and Order*, 12 FCC Rcd at 16532. The Commission later affirmed its decision on reconsideration. *See* Amendment of the Commission's Rules to Establish a Radio Astronomy Coordination Zone in Puerto Rico, *Memorandum Opinion and Order*, 13 FCC Rcd 13683 (1998).

[75] *Arecibo Report and Order*, 12 FCC Rcd at 16532.

should be published and should be replicable by a competent engineer, it appears that much of the information that RCC seeks is already being provided to the public. For example, NRAO specifies on its website how it evaluates proposed operations.[76] We note that, although RCC argues that NRAO can and has changed its interference parameters at will, it does not provide specific details[77] nor does the record reflect that other entities have had difficulties in coordinating with NRAO or other Quiet Zone entities.

26. We also find it unnecessary to establish a process for applicants to appeal interference objections raised by Quiet Zone entities. Although Quiet Zone entities are tasked with establishing technical guidelines regarding operations in Quiet Zone areas and are permitted to object to an applicant's proposed operations, the Commission remains the sole entity with authority to resolve service licensing issues.[78] We emphasize that the interference guidelines set by Quiet Zone entities are starting points from which the applicant and the applicable entity can begin discussions. If an applicant believes that a Quiet Zone entity's guidelines are incorrect or overly-stringent, it has the ability to raise the issue with the Commission for final resolution.[79]

3. Proposal to allow applicants to avoid coordination process if they provide self-certification regarding operational parameters.

27. *Background.* Similar to RCC, SBS also requests the Commission to establish specific Quiet Zone interference criteria. However, unlike RCC, which seeks technical standards that Quiet Zone entities would be required to follow during coordination, SBS seeks specific interference criteria as part of a safe harbor approach by which applicants could self-certify that they are operating below established interference limits.[80] SBS's proposal provides that no Quiet Zone coordination would be necessary for applicants that certify that their proposed facility produces a predicted field strength that is less than those established by the Commission.[81]

28. Further, SBS suggests that, in the event that the applicant's proposed operation produces a predicted field strength that exceeds the established limit, the applicant can still self-certify and avoid the coordination process if it submits a showing of terrain shadowing or other local propagation anomaly which results in a diminished field strength at the Quiet Zone location.[82] Alternatively, SBS proposes that, if the Commission determines that there must be actual coordination between applicants and Quiet

[76] *See* National Radio Quiet Zone webpage, <http://www.gb.nrao.edu/nrqz.html>. NRAO disputes RCC's assertion that NRAO changes its parameters, stating that NRAO's interference protection criteria has been employed for decades and has rarely changed.

[77] Both RCC and NRAO point to changes in parameters when the Robert C. Byrd Green Bank Telescope was constructed in 1999. However, other than this change, RCC does not provide details as to other instances.

[78] *See Arecibo Report and Order* at 16531-16533, paras. 31-33.

[79] *See Arecibo Report and Order*, 12 FCC Rcd at 16527, para. 14; *Arecibo MO&O*, 13 FCC Rcd at 13685, para. 6. RCC provides little detail as to how the current process makes the use of public safety frequency bands economically infeasible. Indeed, there was no comment in this proceeding from any public safety entity stating that the current process is unduly burdensome, or precludes or limits interoperability and mutual aid communications with other jurisdictions.

[80] SBS Comments at 3.

[81] SBS Comments at 4. SBS proposes that the Commission establish clear field strength limits for NRAO, NRRO and Arecibo such as that established in section 1.924(b)(1) for the Table Mountain Radio Receiving Zone.

[82] *Id.*

Zone entities, the Commission should find that no Quiet Zone consent is required where the applicant proposes a modified facility which is technically equivalent to an existing facility.[83]

29. *Discussion.* We find that SBS's proposals to permit self-certification would increase the risk of harmful interference to Quiet Zone operations. As an initial matter, we note that, similar to its 30-day coordination period proposal, the purpose of SBS's self-certification proposals is to bypass the requirement to coordinate with Quiet Zone entities, a proposal that we have rejected as running counter to the goals of this proceeding. This notwithstanding, even if we conclude that it is feasible and desirable for the Commission to establish appropriate interference criteria, there is still a risk that applicants may make errors in calculation, as one commenter asserts,[84] or that the established criteria is not appropriate for a given facility. For example, RCC describes a situation relating to an application for UHF facilities in Augusta County, Virginia in which RCC and NRAO both performed point-to-point propagation predictions over the same paths and arrived at different results. Both results also differed from actual measurements that were later conducted.[85] Although RCC cited this incidence as evidence that specific processes and criteria regarding interference should be codified, we believe that it is more aptly viewed as an example that there must be actual coordination between applicant and Quiet Zone entity where required in order to ensure that harmful interference to the operations of the Quiet Zone entity is avoided.

30. The likelihood that interference may occur is further enhanced if we were to adopt SBS's proposal to allow an applicant to avoid actual coordination even where its proposed operation produces a predicted field strength greater than the established limit. Under SBS's proposal, an applicant would be allowed to demonstrate that terrain shadowing results in a diminished filed strength in a Quiet Zone area. Although accounting for terrain shadowing may in certain cases yield a more accurate prediction of the level of interference to facilities, SBS does not provide any specifics on how such terrain shadowing would be calculated. As Cornell University (Cornell) notes, current terrain shadowing programs may be of use in calculating the reduction of interference to broadcast facilities, but are not designed to predict the impact on the extremely sensitive receivers used by radio astronomy observatories.[86] Rather than streamlining the application process, it appears that this proposal would in actuality impose an extra level of complexity by requiring the Commission to determine whether or not such a showing is accurate and a proposed facility is indeed operating below interference limits.

31. Similarly, SBS's proposal that coordination need not be required for modifications that are technically equivalent to current facilities is equally problematic. This proposal poses the problem of how to define technical equivalency. Under one scenario, the Commission could be required to establish a list of operating parameters that a service provider would be required to follow in order for the modified facility to be considered technically equivalent to its existing facility.[87] In such a situation, any deviation from the established parameters would negate technical equivalency. In another scenario, the Commission would be required to determine if a service provider's change in one operating parameter sufficiently accounts for a change made to a different parameter. For example, to account for a change in antenna height, a provider might make a change to its radiated power. The Commission would be required to determine if a modification to one parameter is adequately negated by a change to a different parameter.

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[83] SBS Comments at 5.

[84] Cornell Reply Comments at 4.

[85] *See* RCC Comments at 1.

[86] *See* Cornell Reply Comments at 4, fn. 2.

[87] The parameters that must be addressed would include location of the antenna, antenna height, direction or gain of the transmitter, frequency or radiated power.

32. We conclude that the difficulties that SBS's proposals create far outweigh any benefits that would be gained. While SBS argues that its proposals will streamline the application process, we find that implementation of its proposals would bring complexities to the process that would delay application processing or increase the risk of harmful interference in Quiet Zone areas. As we have emphasized before, while we have a general goal of streamlining our rules and processes, we will not do so if the potential for harmful interference to Quiet Zones is increased.[88] Moreover, because it appears that, for the most part, applicants and Quiet Zone entities have been successful in timely resolving interference issues, we find little reason to allow applicants to bypass actual coordination with Quiet Zone entities.

4. Clarification of coordination obligations.

33. *Background.* Certain wireless services require frequency coordination prior to the filing of an application.[89] A few of the commenters request that for applications in these services, the Commission identify the entity that is responsible for Quiet Zone coordination, *i.e.* the applicant or the applicant's frequency coordinator.[90] The commenters state that, although they believe that frequency coordinators are better qualified to deal with coordination issues, they primarily wish to have certainty as to which entity is obligated.[91]

34. *Discussion.* Because we seek to provide for flexibility in the coordination process, we decline to specify an entity to perform the notifications required in section 1.924. The *Arecibo Report and Order* provided that an applicant is permitted to make its notification through a frequency coordinator, but is responsible for ensuring that any interference concerns of the Quiet Zone entity are accommodated.[92] To the extent that the Commission's decision in that proceeding was unclear, we clarify that an applicant has the option of notifying/coordinating with a Quiet Zone entity itself or satisfying the requirement through the use of a frequency coordinator. In the event that a frequency coordinator is used and the Quiet Zone entity has interference concerns, the frequency coordinator may continue to act on behalf of the applicant in order to resolve interference issues. However, the applicant retains the ultimate responsibility of ensuring that coordination has occurred and that the concerns of the Quiet Zone entity are addressed.

F. Administrative corrections.

35. The *NPRM* provided that the Commission's rules would be amended to correct certain ministerial errors.[93] First, we reinstate a limitation on the Arecibo Observatory coordination obligations that was inadvertently omitted when the Commission consolidated many of its wireless rules into Part 1 in the ULS proceeding. To correct this omission, we add a new section 1.924(d)(4) that states: "The provisions of this paragraph do not apply to operations that transmit on frequencies above 15 GHz." Similarly, the version of section 1.924(e) contained in the current volume of the Code of Federal Regulations includes two typographical errors from the rule adopted in 1997. Specifically, in section

[88] *See Arecibo Report and Order*, 12 FCC Rcd at 16526 ("Whenever possible, we attempt to streamline our processes and reduce the burden on licensees and license applicants, but in some instances a minimally increased burden must be imposed to allow the public the widest range of telecommunications benefits").

[89] Frequency coordination involves identifying the radio frequencies appropriate for the specific needs of each applicant and the environmental conditions in which the proposed station will be operating, while also minimizing interference to licensees already operating within a given frequency band.

[90] Cornell Comments at 6, NAS Comments at 5; NSF Comments at 3.

[91] *Id.*

[92] *Arecibo Report and Order*, 12 FCC Rcd at 16536, para. 46-47

[93] *NPRM*, 16 FCC Rcd at 20692, para. 6, fn 17.

1.924(e)(1), the first set of coordinates listed under Denver, CO Area, Rectangle 1 should be 41° 30' 00" North Latitude instead of 1°31'00" North. In section 1.924(e)(2), the longitude coordinates should read 76° 52' 00" instead of 78° 52' 00". Further, we change the Quiet Zones reference in sections 27.601(c)(iii) and 90.159(b)(5) from section 90.177 to section 1.924, to reflect the consolidation of wireless rules we adopted in the ULS proceeding.[94]

36. In addition to the errors identified in the *NPRM*, further review of the Quiet Zones rules reveals that other corrections are necessary. First, some of the power flux density values identified in the table entitled "Field Strength Limits for Table Mountain" in section 1.924(b)(1) are not listed correctly. All power flux density limits specified in the table and its accompanying footnote should have negative values.[95] For example, the power flux density value for signals in the 470 to 890 MHz range should read "-56.2" rather than the "56.2" currently listed in the table. Further, the coordinates in rule section 1.924(f)(1)(i) should be 41° 45' 00.2" North, 70° 30' 58.3" West, and coordinates in section 1.924(f)(4)(iii) should read 34° 08' 59.6" North, 119° 11' 03.8" West. Finally, section 1.924 currently lists both the former and current versions of section 1.924(g), and should be corrected to remove the former version. We therefore revise section 1.924 to reflect these corrections.

IV. PROCEDURAL MATTERS

A. Final Regulatory Flexibility Act

37. The Final Regulatory Flexibility Analysis for this *Report and Order*, as required by Section 604 of the Regulatory Flexibility Act of 1980, 5 U.S.C. § 604, is set forth in Appendix B.

B. Paperwork Reduction Act Analysis

38. The actions taken in the *Report and Order* have been analyzed with respect to the Paperwork Reduction Act of 1995 (PRA), Pub. L. No. 104-13, and found to impose new or modified reporting and recordkeeping requirements or burdens on the public. Implementation of these new or modified reporting and recordkeeping requirements will be subject to approval by the Office of Management and Budget (OMB) as prescribed by the PRA, and will go into effect upon announcement in the Federal Register of OMB approval.

V. ORDERING CLAUSES

39. Accordingly, IT IS ORDERED that, pursuant to Sections 1, 4(i), 303(r), and 309(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), 303(r), and 309(j), the REPORT AND ORDER is ADOPTED.

40. IT IS FURTHER ORDERED that, pursuant to the authority of Sections 4(i), 7, 303(c), 303(f), 303(g), 303(r), and 332 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 303(c), 303(f), 303(g), 303(r), and 332, the rule changes specified in Appendix A ARE ADOPTED.

41. IT IS FURTHER ORDERED that the rule changes set forth in Appendix A WILL BECOME EFFECTIVE 60 days after publication in the *Federal Register*.

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[94] *See generally ULS Report and Order*; Amendment of Parts 0, 1, 12, 22, 24, 26, 27, 80, 87, 90, 95, 97, and 101 of the Commission's Rules To Facilitate the Development and Use of the Universal Licensing System in the Wireless Telecommunications Services, *Memorandum Opinion and Order on Reconsideration*, 14 FCC Rcd 11476 (1999).

[95] This error occurred when various service rules regarding field strength limits applicable to the Table Mountain Radio Receiving Zone were consolidated into Part 1 of the Commission's rules in the ULS proceeding.

42. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Report and Order*, including the Final Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary